

REMARKS

Claims 1-3, 7-15, 19, 21, and 22 stands rejected under 35 USC §103(a) as being unpatentable over Leonhardt et al., U.S. patent 5,164,909 in view of Hwang, U.S. patent 6,058,082.

Claims 1,13 and 19 have been amended to more clearly state the invention. Claims 3, 11, and 22 have been cancelled.

The specification has been amended to delete transmission type media, and claims 1, 13, and 19, as amended, are believed to overcome the objections, and the rejections of claims 13-15, 19, 21, and 22 under 35 USC §101.

Reconsideration and withdrawal of the claim objections and the rejection of claims 13-15, 19, 21, and 22 under 35 USC §101 is respectfully requested.

Applicants respectfully submit that the present invention is patentable over the references of record including the Leonhardt, and Hwang references.

Reconsideration and allowance of each of the claims 1-2, 7-10, 12-15, 19, and 21, as amended, is respectfully requested.

Leonhardt et al., U.S. patent 5,164,909 discloses an automated library system that stores and retrieves media cartridges for an associated plurality of media drives. Within this system, a virtual robot is implemented to create multiple virtual media libraries within the single automated cartridge library system. This capability enables the use of a plurality of types of media within the single automated cartridge library and a corresponding plurality of drive elements within the library. Thus, each drive element has associated therewith a number of object storage locations within the

library which contain media of a form and content that matches the drive element. The automated cartridge library system manages the correspondence between object storage location, media type, designated drive element in an automated manner such that the single library appears to the user as multiple independent libraries. This enables the user to transition to another media on an incremental basis, since a single drive element can be added to the library and associated media added as needed without displacing the embedded base of installed robotic media handling equipment or requiring significant modification to this equipment. The automated library system provides a media management capability to define media subsets media elements which have consistent mechanical and electrical characteristics, can vary in data management attributes.

Hwang, U.S. patent 6,058,082 discloses a digital versatile disc (DVD) system compatible with a compact disc (CD), a single-layered DVD and a multi-layered DVD having respectively different structures. The DVD system discriminates a type of a disc loaded on a turntable according to the number of detections and magnitudes represented by reflection characteristic curves of a focus error signal detected during performing an initial focus search operation for the disc. In case the disc is a compact disc (CD) of 1.2 mm thickness, a focus error signal detected during performing a focus search of the disc is indicated as a reflection characteristic curve of a level between predetermined two reference values. In case of a DVD of 0.6 mm thickness, a single-layered structure is indicated as a reflection characteristic curve having a larger level than the two reference values, and a multi-layered structure is indicated as two

reflection characteristic curves having a level between the two reference values, respectively. Using the above characteristics, the type of a disc is discriminated by checking the size and number of times of the reflection characteristic curves of the focus error signal obtained in the focus-up state during performing an initial focus search. Also, since a detection time of the focus error signal is checked, the type of a disc is more accurately discriminated. The system quickly discriminates the type of the CD and DVD, thereby providing an effect that error caused during performing a playback operation can be reduced in the DVD system compatible with the DVD and the CD. FIG. 5 illustrates the subroutine for discriminating a type of the disc 1 in step 416, the servo signal processor 8 determines whether the parameters `p`, `Ds` and `n` necessary for discriminating a type of the disc are all zeros in step 501. When the parameters `p`, `Ds` and `n` are all zero, the servo signal processor 8 determines that there is no disc on the turntable and transmits the discrimination result to the controller 9 in step 502. When not all of the parameters `p`, `Ds` and `n` are zero in step 501, the servo signal processor 8 determines whether the number `n` of detection of the focus error signal of the reflection characteristic curve is "2" in step 503. When the number of detection of the focus error signal of the reflection characteristic curve is "2", the servo signal processor 8 determines the disc 1 as the multi-layered DVD being loaded into the turntable, outputs to the current-to-voltage conversion amplifier 4 a control signal CG of a high level expressed as a binary signal of "1" for gain-up, and informs the controller 9 of the discrimination result, and at the same time, outputs a control signal CO of a low level expressed as a binary signal of "0" in order to control the switching operation of the

switches 45 and 16, in step 504. When the number `n` of detection of the focus error signal of the reflection characteristic curve is not "2" in step 503, the servo signal processor 8 judges whether the number `n` of detection of the focus error signal is "1" or not in step 505. If the number "n" of detection of the focus error signal of the reflection characteristic curve is "1", the servo signal processor 8 judges that the disc is a CD, to thereby output the control signal CG of a high level to current-to-voltage conversion amplifier 4 and the control signal CO of a high level to the switches 45 and 16, respectively, in step 509. If the number "n" of detection of the focus error signal of the reflection characteristic curve is not "1" in step 505, the servo signal processor 8 judges whether the parameter DS is set as "1" in step 510. If the parameter DS is set as "1", the servo signal processor 8 judges that the disc 1 loaded on the turntable is a single-layered DVD, to thereby output the control signal CG of a low level to the current-to-voltage conversion amplifier 4 and the control signal CO of a low level to the switches 45 and 16, respectively, in step 511. If the parameter DS is not set as "1", the servo signal processor 8 determines that the current state is an abnormal state, and transmits the determination result to the controller 9 in step 512.

Applicants respectfully submit that the prior art, considering the total teachings of the references in combination, fail to achieve or enable the invention as recited in each of the independent claims 1, 13, and 19, as amended.

The present invention provides an admittedly novel method, computer program product and apparatus method for implementing device selection in a robotic media library with multiple media types and multiple device types.

Computer system 100 includes stored media information 144 including a required technology indicator 146 for each known media 138, and an I/O device technology indicator 148 for each device 132 in accordance with the preferred embodiment. Information about each media known in the library conventionally is maintained in system storage. Stored information of the preferred embodiment includes the two new indicators 146 and 148.

In accordance with features of the invention, the method first adds the two pieces of information, the required technology indicator 146 for each media and the I/O device technology indicator 148 for each device. First, the required technology identifier 146 indicating a type of disk drive required to read and/or write the media is added to the data for each media in the stored media information 144. The value of the required technology identifier 146 is zero in a library with only one disk drive technology, or zero in a mixed drive library if a particular technology requirement has not been determined. Second, the I/O device technology indicator 148 is added to stored information for the description of each disk drive 1-M, 132 in the library 128.

As now recited in each of the independent claims 1, 13, and 19, as amended, the method, computer program product and apparatus method for implementing device selection in a robotic media library with multiple media types and multiple device types includes the steps storing a first indicator with predefined media information to identify a required technology for each media; storing a second device technology indicator to describe each device in the robotic media library; responsive to identifying the multiple device types in the robotic media library and a default value for

said first indicator, selecting a first device type including selecting a newest device type in the robotic media library for said first device type.

This is not suggested in the prior art references of record including Leonhardt and Hwang. Leonhardt fails to disclose or suggest any equivalent indicators as taught and claimed by applicant, as now expressly recited storing a first indicator with predefined media information to identify a required technology for each media; storing a second device technology indicator to describe each device in the robotic media library.

As amended, each of the independent claims 1, 13, and 19 require identifying a default value for said first indicator and then a first device type selected, and selecting a first device type including selecting a newest device type in the robotic media library for said first device type. Neither Leonhardt, nor Hwang teach or suggest these steps for implementing device selection in a robotic media library.

As now recited in each of the independent claims 1, 13, and 19, as amended, further recite the steps storing a second device technology indicator to describe each device in the robotic media library; selecting a device of said selected first device type and placing media in said selected device; and responsive to media being placed in said selected device, checking for successful operation, and responsive to an unsuccessful operation, selecting a next device type. The step of storing a second device technology indicator to describe each device in the robotic media library; is not suggested in the prior art references of record including Leonhardt and Hwang. As set forth above, Hwang teaches steps for identifying error operation; however,

neither Leonhardt, nor Hwang teach or suggest these steps for selecting a next device type to implement device selection in a robotic media library, as taught and claimed in each of the independent claims 1, 13, and 19, as amended.

The total teaching of the Leonhardt and Hwang fail to achieve or enable the method, computer program product, and for implementing device selection in a robotic media library, as taught and claimed by Applicants, as recited in independent claims 1, 13, and 19, as amended.

Thus, each of the independent claims 1, 13, and 19, as amended, is patentable.

Dependent 2, 7-10, 12, 14-15, and 21, respectively depend from patentable claims 1, 13, and 19, further defining the invention. Each of the dependent claims 2, 7-10, 12, 14-15, and 21 is likewise patentable.

Applicants have reviewed all the art of record, and respectfully submit that the claimed invention is patentable over all the art of record, including the references not relied upon by the Examiner for the rejection of the pending claims.

It is believed that the present application is now in condition for allowance and allowance of each of the pending claims 1-2, 7-10, 12-15, 19, and 21, as amended, is respectfully requested. Prompt and favorable reconsideration is respectfully requested.

If the Examiner upon considering this amendment should find that a telephone interview would be helpful in expediting allowance of the present application, the Examiner is respectfully urged to call the applicants' attorney at the number listed

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below.

S-signature by

Respectfully submitted,

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